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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/529,129	03/22/2005	Johannes Marra	NL02 0854 US	2571

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PHILIPS ELECTRONICS NORTH AMERICA CORPORATION
INTELLECTUAL PROPERTY & STANDARDS
1109 MCKAY DRIVE, M/S-41SJ
SAN JOSE, CA 95131

EXAMINER

PARKER, FREDERICK JOHN

ART UNIT PAPER NUMBER

1762

DATE MAILED: 07/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/529,129

Applicant(s)

MARRA ET AL.

Examiner

Frederick J. Parker

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/22/05</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino

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acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The current claim is generic.
4. The disclosure is objected to because of the following informalities: 1) page 1, 26; page 3, 5; page 6, 18, each contain obvious typographical errors. 2) In the specification, please indicate once the meaning of abbreviations ITO and TFT for clarity; 3) figures 1-5 must be individually described. Appropriate correction is required.
5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim Objections

6. Claim 7 is objected to because of the following informalities: Claim 7, 1, "6in" is a typographical error. Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- Claim 1 is vague and indefinite because the meaning of the relative and subjective term “near” fails to convey the position of the deposition electrode, the term is not defined, and would not be apparent to the skilled artisan.
- Claim 2 is vague and indefinite because it is unclear how the deposition electrode comprises the outlet when claim 1 requires the electrode be “near” the outlet, the term “near” by definition requiring some space between the two.
- Claim 3 is vague and indefinite because it is unclear how the field moves “anti-gravitationally”; the Examiner notes the description on page 2, 8-9 states the substrate is located in an anti-gravitational position (known in the art as electrostatic upward propulsion) which does not appear to be the same as the meaning of the claim.
- Claim 4: “the other side” lacks proper antecedent basis.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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10. Claims 1,4 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Faust US 5110618.

Faust teaches depositing of charged aerosolized liquid particles in a gas stream onto a substrate surface comprising forming and charging the aerosol particles in the stream, which is directed through outlet 13 towards the substrate which is oppositely charged to provide an electrostatic field between the substrate and generator/ electrode 2. Electrode roller 8 is coupled to the side of the substrate opposite that being coating. See figures 1 &3 and accompanying text; col. 2, 12-29; col. 6, 10-14; col. 7, 46- col. 8, 25. Faust therefore contains each and every limitation of claims 1 and 4 as provided.

11. Claims 1,2,4-8,11 are rejected under 35 U.S.C. 102(b) as being anticipated by Goldowsky US 5066512.

Goldowsky teaches a method for forming color filters, and products made therefrom. Substrate 28 contains a plurality of isolated PEL's (picture electrodes) which can be positively or negatively charged as desired for the application of coatings mists of specific colors. A first charge is applied to filter portions desired to be coated with a specific color and an opposite charge on those not to be so coated. A fine colored mist is then produced and charged to a polarity to allow attraction and deposition of the specific color only to the selected areas, thereby producing color filter mosaics of red, green, etc (col. 2,54 to col. 3, 46). Droplets are charged in charging zone 15 comprising electrodes 20,21 near to, and composing part of, the overall dispensing outlet unit which is opposite the substrate 28. A strong electrostatic force is formed between the expelled charged mist droplets 26 and the isolated areas to be coated. The reference

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further teaches on column 8, 44-57 that black areas are produced in a like manner, namely charging the isolated PEL regions so the charged black droplets are attracted to border areas there between. Mists are, by definition, “a colloidal suspension of a liquid in a gas” (Webster’s New Riverside Dictionary, 1992), and therefore the described particles are “aerosols”.

Since claim 6 is anticipated by the reference, the product made as described would therefore also be anticipated by Goldowsky et al. *MPEP 2113*.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

14. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Goldowsky et al in view of Point US 3323934.

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Goldowsky et al is cited for the same reasons previously discussed, which are incorporated herein. Electrostatically moving the charged particles “anti-gravitationally” (interpreted by the Examiner to mean by upward electrostatic propulsion per page 2, 8-9 and fig. 6) is not cited.

Point teaches a method of selectively applying charged liquid droplets (or solids) to substrates of a different potential, in which the applicator gun 4 is vertically oriented, and the substrate is placed upside down facing the upward stream of charged droplets being discharged, so that the electrostatic field established causes the particles to travel up to and be attracted to the substrate, forming the desired coating (col. 3, 10-29). Thus, both electrostatic application means of the prior art references provide electrostatically adherent liquid droplet/ mist coatings on selectively charged substrates. There is no evidence the orientation of the droplet stream relative to gravity provides synergistic or unexpected results, absent a clear and convincing showing to the contrary. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Goldowsky et al by substituting the upward electrostatic means of Point for the downward gravitational spray means of Goldowsky et al because both are disclosed to provide liquid coatings on substrates using similar electrostatic principles.

15. Claim is rejected under 35 U.S.C. 103(a) as being unpatentable over Goldowsky et al in view of Tateno et al US 6649221.

Goldowsky et al is cited for the same reasons previously discussed, which are incorporated herein. Application of spacer particles and a display device manufactured is not cited.

Tateno et al teaches forming liquid crystal display articles in which a glass or other substrate bearing a plurality of electrodes is electrostatically wet spray coated with spacer particles, by

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applying charged spacer particles to oppositely charged portions between the electrodes while applying a different electrostatic potential to the electrodes to enable accurate and highly precise control of micro particle spacer particles into the electrode gaps in formation of a liquid crystal display device. See abstract; col. 13,45-67; col. 23, 23-34. The combination of references therefore renders claims 9 and 10 obvious, as well as the product formed by the process of claim 9, according to claim 12. *MPEP 2113.*

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the process of Goldowsky et al by using the general process to apply spacer particles to electrode gaps as taught by Tateno et al to provide a liquid crystal display device having an accurate and highly precise control of micro particle spacer particles into the electrode gaps.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frederick J. Parker whose telephone number is 571/ 272-1426. The examiner can normally be reached on Mon-Thur. 6:15am -3:45pm, and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571/272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Frederick J. Parker
Primary Examiner
Art Unit 1762

fjp